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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
08/770,792	12/19/96	KOYAMA J	07977/105001

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EXAMINER	
NGO, H	
ART UNIT	**PAPER NUMBER**
2871	

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Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trad marks

Office Action Summary	Application No. 08/770,792	Applicant(s) Koyama et al
	Examiner Julie-Huyen Ngo	Group Art Unit 2871

☐ Responsive to communication(s) filed on _____.

☒ This action is **FINAL.**

☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

A shortened statutory period for response to this action is set to expire 3 month(s), or thirty days, whichever is longer, from the mailing date of this communication. Failure to respond within the period for response will cause the application to become abandoned. (35 U.S.C. § 133). Extensions of time may be obtained under the provisions of 37 CFR 1.136(a).

Disposition of Claims

☒ Claim(s) *2, 4-6, 10, 15, 17, and 21-56* is/are pending in the application.

Of the above, claim(s) _____ is/are withdrawn from consideration.

☐ Claim(s) _____ is/are allowed.

☒ Claim(s) *2, 4-6, 10, 15, 17, and 21-56* is/are rejected.

☐ Claim(s) _____ is/are objected to.

☐ Claims _____ are subject to restriction or election requirement.

Application Papers

☐ See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.

☐ The drawing(s) filed on _____ is/are objected to by the Examiner.

☐ The proposed drawing correction, filed on _____ is ☐approved ☐disapproved.

☐ The specification is objected to by the Examiner.

☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).

☐ All ☐ Some* ☐ None of the CERTIFIED copies of the priority documents have been

☐ received.

☐ received in Application No. (Series Code/Serial Number) _____.

☐ received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

*Certified copies not received: _____.

☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

☐ Notice of References Cited, PTO-892

☐ Information Disclosure Statement(s), PTO-1449, Paper No(s). _____

☐ Interview Summary, PTO-413

☐ Notice of Draftsperson's Patent Drawing Review, PTO-948

☐ Notice of Informal Patent Application, PTO-152

--- SEE OFFICE ACTION ON THE FOLLOWING PAGES ---

DETAILED ACTION

Claim Rejections - 35 USC § 112

Claims 45-50 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Claims 45-50 recited that the control circuit comprises a semiconductor chip which was not described in the specification nor shown in any drawing.

Claim Rejections - 35 USC § 103

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claims 2, 4-6, 10, 12-14, 17 and 21-56 are rejected under 35 U.S.C. 103(a) as being unpatentable over Applicant's admitted prior art (figure 4 and page 2, lines 14-23 of the specification) in view of Hinata et al (5,610,742) and further in view of Spruijt et al (4,394,067).

Applicant admits on page 2, lines 14-23, and shows in Figures 2-6, a conventional active matrix liquid crystal display comprising all the elements recited in claims 2, 4-6, 10, 12-14, 17 and 21-56 exclusive of 1) a non-conductive or weakly conductive material applied to the cut side edge of the TFT substrate, the cut side edge of the counter substrate and the cut side edge of the bus line; 2) a control circuit provided within and in contact with a sealing material.

Hinata et al. teach, in the abstract and figures 1-5, sealing the sides edges of the substrates in the liquid crystal display with epoxy adhesive or flexible gas barrier films (13) to decrease poor display performance caused by bubble formation. Since the side edge of the bus line is aligned and inside the TFT substrate, it would have been obvious to apply flexible gas barrier films or a nonconductive film (13) to the side edge of the substrates and the side edge of the bus line of the admitted prior art to decrease poor display performance, as taught by Hinata et al.

Spruijt et al teach (abstract and col.1, lines 16-64) to provide protection for the control circuit (IC-crystal) and to minimize a non-effective display area, the control circuit is accommodated in recesses of the rim of the sealing material (13) of the display device. Further,

placing the circuit in the rim of the sealing material between the two substrates not only provides a good mechanical and impervious protection to the circuit but the number of electrical connections to the exterior is also reduced. On the other hand, Spruijt et al. also taught (col.1, lines 16-31) that using a non-encapsulated control circuit or IC-crystals results in an important saving of the visually useless space compared with an IC having a housing.

Therefore, it would have been obvious for one of ordinary skill in the art to combine the teachings of Hinata et al. and Spruijt et al. to have the 1) a non-conductive or weakly conductive material applied to the cut side edge of the TFT substrate, the cut side edge of the counter substrate and the cut side edge of the bus line; 2) a control circuit provided within and in contact with a sealing material in the Applicant's admitted prior art.

Accordingly, claims 2, 4-6, 10, 12-14, 17 and 21-56 would have been obvious over the Applicant's admitted prior art in view of Hinata et al. and further in view of Spruijt et al.

Response to Arguments

Applicant's arguments filed November 29,1999 have been fully considered but they are not persuasive.

In response to applicant's argument that the applied prior arts did not disclose or suggest applying the non-conductive or weakly conductive material to the side edge of the counter substrate and the side edge of the TFT substrate. Hinata et al. teach, as applied above, sealing the sides edges of the substrates in a liquid crystal display with epoxy adhesive or flexible gas barrier films (13), which is the non-conductive or weakly conductive material, to decrease poor display performance caused by bubble formation. Therefore, it would have been obvious to apply the non-conductive or weakly conductive material (13) to the side edge of the counter substrate and the side edge of the TFT substrate in the Applicant's admitted prior art to decrease poor display performance, as taught by Hinata et al.

In response to applicant's argument that Sprujit et al. did not disclose a control circuit provided within and in contact with the sealing material. Sprujit et al., as applied above, teach to form a non-encapsulated control circuit within the sealing material and at the accommodation portion of the thin substrate to reduce the number of electrical connections to the exterior, to

provide a good mechanical and impervious protection of the circuit, and to provide sufficient space for the circuit. Since the non encapsulated control circuit does not contain in a housing it would obviously be in contact with the sealing material in the device of Sprujit et al.

Therefore, it would have been obvious for one of ordinary skill in the art to modify Applicant's admitted prior art device to have the control circuit provided within and in contact with the sealing material, as taught by Sprujit et al.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Julie Ngo whose telephone number is (703) 305-3508.

Any inquiry of a general nature or relating to the status of this application should be directed to the Group receptionist whose telephone number is (703) 308-0956.

Papers related to this application may be submitted to Art Unit 2871 by facsimile

transmission. The faxing of such papers must conform with the notice published in the Official Gazette, 1096 OG 30 (November 15, 1989). The Art Unit 2871 fax number are (703) 308-7722/7724.

JHLM
February 13, 2000

William L. Sikes
Supervisory Patent Examiner
Group 2871